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REPORT

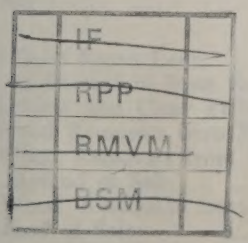
OF THE

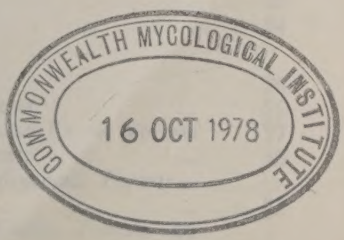
DIRECTOR-GENERAL OF FORESTS

FOR THE YEAR ENDED

31 MARCH 1978

Presented to the House of Representatives
Pursuant to Section 68 of the Forests Act 1949





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THE DIRECTOR-GENERAL OF FORESTS
to the Hon. Venn Young, Minister of Forests
Wellington, 2 June 1978.

SIR,

I have the honour to present, pursuant to section 68 of the Forests Act 1949, the annual report of the operations of the New Zealand Forest Service for the year ended 31 March 1978.

M. J. CONWAY, Director-General of Forests.

Hon. Venn Young,
Minister of Forests,
Wellington.

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FOREST POLICY AND MAJOR ISSUES

FOREST MANAGEMENT AND THE PUBLIC

One of the main features of the Forests Amendment Act 1976 was the provision for greater public involvement in forest planning and management. In observing this principle the Forest Service held two major seminars during the year and also sought public comment on published management proposals for forests and forest parks in various parts of the country.

Seminar on West Coast forests—The first seminar, at Hokitika, was attended by over 200 people with a wide range of interests in the future of forestry on the West Coast. More than 30 papers were presented, dealing mainly with the forest resources of the region, the existing commitments to industry, and the competing uses to which the forests could be put.

At the end of the week-long Hokitika seminar an invitation was issued for the public to comment on the issues raised and to express preferences for various options of management. The response exceeded expectations, with some 270 submissions from individuals, local authorities, community groups, forest industries, and conservation and professional forestry organisations. The views put forward covered the known range of divergence of opinion, from genuine fear of loss of livelihood to an intense desire for maximum preservation of forests in their natural state. However, apart from these somewhat subjective and often very personal expressions, several detailed contributions were received. An analysis of all submissions was made and published and formed the basis for a set of principles for future management to be forwarded shortly for ministerial approval and endorsement by the Government. When this has been obtained management plans will be prepared.

Seminar on west Taupo forests—The second seminar took place at Taupo in March and was held in an atmosphere of highly publicised controversy over the fate of virgin forests in the centre of the North Island, west of Taupo, and of the kokako or blue wattled crow. A similar procedure to the first seminar was followed, and the 50 key people invited were presented with all available information.

Clear felling of the west Taupo native forests had already ceased and substantial reserves had been proposed specifically to preserve representative forest types and much of the prime habitat of the kokako. These measures have by no means been universally accepted and the point at issue now is whether selective logging should take place in the residual productive zones, and if so, at what level. Submissions have been called for on the management of these forests and will be taken into account in framing proposals.

Management alternatives for western Southland forests—In the case of forests in western Southland, the Forest Service issued a comprehensive document outlining various management alternatives and held meetings at which these alternatives were discussed. Forty-five submissions were received, and following consideration of them a set of guidelines has been approved by the Minister of Forests. A regional management plan will now be prepared in accordance with these guide-

lines and when approved by the Minister of Forests will be available for public perusal. Consultation will be maintained with interested parties during its implementation.

Advertising forest park management plans—With regard to State forest parks, there is now a statutory requirement for all management plans to be submitted to public scrutiny before being finalised. Present procedure is for a draft plan to be prepared by the Forest Service in consultation with the park advisory committee. The draft plan is then advertised for comment, and submissions received are considered by the advisory committee and amendments made to the plan before it is forwarded to the Minister of Forests for approval. Draft management plans for 7 of the 15 forest parks have now been made available for public examination and comment. The parks involved are Coromandel, Kaimai-Mamaku, Kaweka, Ruahine, Tararua, Lake Sumner, and Catlins. The final management plans which have received Ministerial approval are to be made available for inspection at Forest Service offices.

PRICING AND USE OF INDIGENOUS TIMBER

The management policy for indigenous State forests recognises the need to revise procedures for marketing indigenous timbers and for changes in consumer preference and demand. To encourage more discrimination in the use of native timbers and at the same time offer an incentive to sawmillers to increase the output of higher grades the Government last year indicated its desire that prices for these higher grades be raised. Following discussions between industry, the Forest Service, and the Department of Trade and Industry as the pricing authority, agreement was reached on a 100 percent increase in the existing margin between finishing and building grades, phased in over a period of 12 months in three stages. The first increase came into effect on 1 June 1977 and the third is due to be introduced on 1 June 1978.

The Forest Service shares the concern of conservation organisations over the need for better use of native timbers, but it cannot agree with all the claims made by such organisations about misuse. For example, it is frequently alleged that 80 percent of dressing grade timber is either painted over or covered from view and therefore that the decorative value of the higher grades of rimu is lost. This claim is misleading in so far as it is based on a Forest Service study carried out as far back as 1972–73. Moreover, that survey dealt only with the use of native timber in dwellings, which represented less than half the total use of finishing and building grades at that time. It did not include native timber used in commercial buildings and manufactured goods such as furniture. It is in these areas where most of the higher grades are put to appropriate use. Furthermore, of the total quantity of native timber which went into housebuilding at that time one-third was of dressing quality and in fact at least half was not painted over or covered.

In the 5 years since the survey on use of native timbers in dwellings it has become increasingly apparent that the great bulk of finishing grades is being appropriately used and clear-finished in commercial and institutional buildings and in manufactured items. There is also recent evidence of less rimu being used for framing in new dwellings,

for example in Auckland, where demand for this grade is relatively poor. Information collected to date in an end-use survey being carried out in that area indicates that native timbers are not being used for framing above floor level. This suggests that apart from an ever-increasing preference for radiata pine as a framing timber, the marginally cheaper price for rimu framing is insufficient to favour its use. In the case of the Canterbury and Southland markets, which are close to the main indigenous resources and which have been traditionally oriented towards rimu framing, there has been a marked trend over this period towards the use of exotic softwoods in place of rimu for framing in new houses and flats.

It is not possible to measure quantitatively the impact of raising the price of the higher grades of native timber but it is clear that this recent move is already producing results. The higher grades have not been priced off the market, as was feared in some quarters, but the increase has induced the desired trend toward greater recovery of clear cuttings of dressing quality from building grades. This also has the effect of reducing the amount of building grade native timber that is put on the market. These results need to be qualified with regard to Christchurch, where the effect of the price increases for the higher indigenous timber grades has been masked by the general low demand for practically all grades and sizes of timber on account of the depressed building activity.

Concern has been expressed over the fact that the price of exotic timber has also risen in the meantime and that this negates to some extent the intent of increased prices for native timber. It must be appreciated that the higher exotic timber prices were authorised, as for any other commodity, on evidence being produced of higher costs for raw material and for production and processing. Nevertheless, there is a case for looking more closely at the relationship between the prices of exotic and native timbers. Conservation of indigenous forest is the aim, and it cannot be left to scarcity of the resource alone to dictate the value of the end product.

EXOTIC AFFORESTATION

At the 1974–75 Forestry Development Conference a planting level of 55,000 hectares a year was regarded as desirable over the next 10 years. The Forestry Council amended the period to 5 years, with a review in 1979, but the proposed level was not formally accepted by the Government. In the event, the planting rate rose to 44 000 ha in 1975 and to a record high of over 48 000 ha in 1976, consisting of around 22 000 ha by the Forest Service and 26 000 ha by companies, local authorities, farmers, and others.

In last year's report it was predicted that private planting could not be maintained at its 1976 level unless land became available and economic conditions improved. This prediction has proved correct as only 19 700 ha were planted by the private sector in 1977. This fall-off of 24 percent is attributed mainly to the inability of several large companies to get access to land because of difficulties in negotiating leases of privately owned land, and in one case because of delays in arriving at decisions on land use on a regional basis.

Planting by the Forest Service also dropped, to 19 800 ha, making a national total of 39 500 ha, compared with 48 000 ha in 1976. The

decline in new planting by the Forest Service was similarly in part the result of a shortage of suitable land in regions where workers were available under the Government's special employment scheme. The department's normal approved programme of 16 200 ha was achieved, but the additional area planted under the special employment scheme was considerably less than in 1976.

WOOD PRODUCTION AND REVENUE

Large areas of exotic forest are now reaching maturity and more wood is becoming available. For the 1975–76 year the yield from all forests (that is State and private, indigenous and exotic) was 8.3 million m^3 in round measure. This rose substantially to 9.8 million m^3 in 1976–77, with 8.9 million m^3 (91 percent) coming from exotic forests and 0.9 million m^3 (9 percent) from indigenous forests.

Sawn timber production rose correspondingly, reaching 2.2 million m^3 in sawn measure, 10 percent higher than in 1975–76. This was made up of 1.9 million m^3 of exotic timber, a rise of 15 percent, and 0.3 million m^3 of indigenous timber, a drop of 8 percent. Final figures for 1977–78 are not yet available, but returns to 31 December 1977 indicate a smaller overall increase in sawn timber production of 4 percent, compared with the year ended 31 December 1976. In the same period the indigenous sawn timber output fell by 12 percent.

Roundwood removals from State forest alone in 1976–77 amounted to 4.8 million m^3, or 49 percent of total removals. Of this, indigenous forest accounted for 0.4 million m^3, or 8 percent of total State production. Production from indigenous forests continued to decline in 1977–78 with the application of the revised forest policy.

Revenue from the sale of State forest wood for the year ended 31 December 1977 was $36.1 million, compared with $33.6 million in 1976 and $23.8 million in 1975.

NEED TO EXPORT

Wood extracted from our forests is put to various uses. A breakdown of the allocation of roundwood from all forests in 1976–77 showed that —excluding saw logs of peeler quality, logs exported, and some saw logs going direct into pulp—around 55 percent of the total went to the domestic sawmilling industry. This figure underlines the importance of the saw log in production forestry and of the main end product, which is sawn timber. Over 80 percent of this product comes from exotic forests and this proportion is bound to increase in the future. Virtually all indigenous sawn timber is used within New Zealand, along with 85 percent of sawn timber from exotic forests. With the stepped up planting rate of the 1960s and 1970s, however, much more exotic wood will come on to the market from about 1990 on. From many points of view, including those of capital requirements, energy, and environmental considerations, processing of this increased quantity into sawn timber has much to commend it. However, with only a modest increase anticipated in the domestic market it is obvious that a higher volume and a higher proportion must be exported.

In 1977 our exports of exotic sawn timber amounted to 296 000 m^3. Of this, 32 percent went to Australia and 60 percent to Japan, the rest going mainly to the Pacific Islands. While Japan takes almost twice as much exotic sawn timber from New Zealand as does Australia (which until recently was our main market), the nature of these two markets is quite different. In the first place, Australia imports an insignificant quantity of logs from New Zealand, and the sawn timber it takes is in a range of high grades suitable for building and manufacturing purposes and of low grades for temporary construction work and packaging. It is a market where both radiata pine and Douglas fir are widely accepted for building, and is our main market for the latter species. New Zealand's ability and increasing willingness to supply stress graded timber to conform to Australian building codes and practice is a factor which appears to be favouring our trade with that country.

By contrast, our trade with Japan is predominantly in logs and square baulks of timber, with both products being further sawn in Japan for use mainly in packaging. While there are good grounds for exporting a proportion of our production in log and baulk form, it is clear that there is a need to develop trade with Japan, and for that matter other countries, in sawn and graded timber destined for building purposes and for manufacture of high quality products.

ACCEPTANCE OF RADIATA PINE IN JAPAN

Radiata pine, unlike competitive timbers such as hemlock and mixed fir species from North America, is not yet regarded as a suitable construction material in Japan and there is a long-standing antagonism to it as a structural timber in the eyes of the Japanese building trade and consumer. This is reflected in the Japanese standards covering grading, strength classification, and building materials, which penalise radiata pine and, in practical terms, effectively rule out its use for house framing as we know it in New Zealand. A further cause for concern is the 10 percent tariff on radiata pine sawn timber—but not on hemlock and fir—of less than 160 mm in thickness. These two issues have been the subject of strong representations during the year by both the Government and the timber industry itself. No progress can be reported on the tariff item.

With a view to determining the structural properties of radiata pine when graded to Japanese standards, a programme of testing has been carried out by the Forest Research Institute, Rotorua, at the request of the Japanese authorities. This study of a representative sample of nominal 100 by 50 mm radiata pine, drawn from the main areas within New Zealand which have or are likely to have in future a surplus of sawn timber for export, shows that it qualifies for a strength classification at least equal to the hemlock/fir group of species in the Japanese standard and that the ring-width limitation imposed on radiata pine by this standard is not justified. The results of this study have been conveyed to Japan and it is proposed to invite representatives of specifying and technical agencies and of users to New Zealand in the coming year to discuss, if necessary, the research data and to see for themselves the suitability of radiata pine in the structural field. It is hoped that these moves will lead to early and appropriate amendment to the Japanese standards.

Apart from securing the removal of restrictions on the use of radiata pine in Japan, there is much to be done to develop the market in that country. There was a time when radiata pine had to be promoted as a building timber even here in New Zealand, and later in Australia. The establishment of a timber trade post in Sydney in 1956 helped considerably in winning acceptance of radiata pine by specifying authorities, local bodies, and users generally. It is considered that the establishment of a timber trade commissioner position in Japan would assist exporters to develop markets there.

ANIMAL CONTROL

For some years there has been widespread concern over the way certain venison recovery operations were being carried out. The high prices obtained for game meats on overseas markets led to intense competition and invited poaching. The situation was made worse by the difficulty of policing helicopter activity in remote parts of the country and by the minor nature of the penalties that would be incurred by offenders upon conviction. To correct this the Wild Animal Control Act 1977 was passed during the year, replacing the Noxious Animals Act 1956. One of the major measures of the new Act, effective from 23 March 1978, is a system of licensing. The hunting of wild animals by helicopter will be permitted by licensed operators only, whether engaged in recovery of animals from Crown-owned or private land. The Forest Service is to be responsible for the issuing of all permits to enter Crown-owned land. They will be issued to licensed operators only and for a maximum period of 12 months. Greatly increased penalties are laid down for breaches of the Act, such as the cancellation of all permits and licences, the confiscation of any animals taken, and a fine of up to $5,000.

Another feature of the legislation is the provision for suitable areas of State forest and other Crown-owned land to be set aside as recreational hunting areas where control of wild animals will be exercised mainly by sportsmen hunters, subject to oversight by the department as to their effectiveness in keeping animal numbers down to a level that ensures a healthy forest or other plant cover. The Forest Service has already identified some areas for consideration by a national hunting advisory committee which will be set up shortly.

ANNUAL ACCOUNTS

The Audit Office report on the Forest Service accounts (appendix 8) states there is no evidence supporting the balance sheet asset of $3,595,917 for stocks and stores. Although the department fully controls stores and physically checks stockholdings annually, there has been no confirmation of these against financial records for several years. This is now being undertaken as a matter of priority. Stores accounting procedures are being reaffirmed or, where necessary, strengthened to comply with Audit Office and departmental requirements by the earliest possible date.

PRODUCTION FORESTRY

MANAGEMENT

Acquisition of land—As was mentioned in last year's report (and also commented on in this year's Policy section), the ability of the Forest Service to acquire land for afforestation is governed by the size of the annual appropriation for this purpose. In recent years this has been barely adequate to acquire areas equivalent to half of the new exotic forest area established annually. The depletion of the land bank in some localities has been speeded by the requirements for additional land for the substantial special-employment programme, particularly in the past 5 years.

A special appropriation during 1977 enabled acquisition in areas where land was critically needed to maintain the continuity of both the basic Forest Service and special-employment planting programmes. This should enable the planting for 1978 to be at least equal to that of former years.

During the year an afforestation lease of Maori land at Pouto, the Pouto 2F block, covering 1392 ha, was signed.

Forest diseases—Weather conditions unfavourable to the spread of the pine needle blight *Dothistroma pini* during summer 1976–77 resulted in a markedly reduced control-spraying programme of 24 000 ha, compared with 63 000 ha the previous year. Dry conditions since December 1977 will be unfavourable to the development of the disease, and a small control spraying programme can be expected again next year.

It appears that the spread and development of *Dothistroma* have now reached natural, climatically controlled levels. Dry summer conditions, as in the Wairarapa and parts of Marlborough, and a coastal influence, as on sand dune forests, appear to be associated with lower levels of infection, while areas with a moist climate, such as parts of Northland, central North Island, and the West Coast, experience higher levels. As yet, the fungus does not appear to occur in Southland or Canterbury.

Workshop on Canterbury forests—A workshop meeting held in Christchurch in February/March reappraised the management of Canterbury's forests in the light of the region's timber-supply deficit and its major problems for forestry, i.e., strong winds, particularly on the plains, and severe weed competition, most notably on the foothills.

Overall, the South Island has sufficient production of saw logs to meet its domestic sawn timber demand, but until 1996 Canterbury will have a major shortage as a result of the 1975 windblow. However, from 1991 the South Island will be a net exporter of timber, and by 1996 a threefold increase over current production will be possible. Consequently, current plantings in Canterbury will be maturing in an era of wood surplus, and the meeting bore this in mind in considering the region's forestry future.

The consensus was that the foothills, particularly in the vicinity of Timaru, offer the best prospects for future afforestation and log

exports. Associated advantages were seen as greater stand stability, improved timber quality, and reduced incidence of resin pockets. Also, Timaru seems likely to remain the principal port for the region.

The future of the plains forests is less clear. A Forest Research Institute study on trees at Eyrewell Forest has indicated only limited improvement in quality as a result of pruning. Further evaluation of tending schedules involving multiple prunings and thinnings is therefore proposed. Trials on forest nutrition suggest potential alternative regimes for shortening rotations or, conversely, producing a larger log on the same rotation, and also improving timber density.

Meanwhile, because some cut-over sites have now been prepared or replanted, and as there is also a considerable area of young crop that has survived the windblow, there remains a virtual commitment to continue to manage these forests for at least one further rotation. In that time, economists, researchers, and managers must clarify whether forestry is a justifiable land use on the plains.

WORK PROGRAMME IN STATE EXOTIC FORESTS

The following operations were carried out in State exotic forests in 1977–78 (figures are provisional):

	Hectares
New planting (including leasehold land)	19 783
Restocking of logged forest	7 964
Pruning (almost all radiata pine)	26 225
Thinning	24 097
Clear felling	8 165

Forest Service nurseries have raised about 65 million seedlings for planting in the coming winter.

FORESTRY EXTENSION

Increased incentives for planting and tending—During the year the Government approved an increase in the maximum amount claimable under the forestry encouragement grants scheme from $300 to $450 per ha. It also approved a 100 percent remission of debt for loans to farmers under the earlier forestry encouragement loans scheme, where the woodlots had been brought up to an acceptable standard of tending. Future qualifying costs could be claimed under the grants scheme. These changes will provide the necessary incentives for growers to complete tending, which is necessary if wood of a good quality is to be obtained from forests grown under the schemes.

Forestry co-operatives—Now that growing of small forests on a mixed land-use basis has been largely accepted, attention is being focused more on tending and eventual marketing. At least five regions are investigating the possibility of establishing co-operative organisations to provide expertise and labour for the mutual benefit of members. A group approach to wood sales is considered essential if equitable marketing for small growers is to be achieved. Enabling legislation for forestry co-operatives is planned for the 1978–79 legislative programme.

Need for forest valuation standards—With the steadily increasing number of properties that support woodlots of commercial significance there is a need to develop an acceptable standard of forest valuation. Valuations will be needed for property sales, insurance, and estate planning, and at present there is no standard method of arriving at a value, particularly of an immature forest. The New Zealand Forestry Council has now set up an *ad hoc* committee to study this particular problem and others relating to forest taxation and accounting.

FIRE CONTROL

What was probably the most widespread drought that New Zealand has ever experienced led to a greatly increased number of fires, although generally gentle winds enabled their easy containment without much loss. However, the dry conditions made fire extinction an expensive and time-consuming task.

Dry lightning, unheard of several years ago, caused fires at scattered points throughout the country, creating a situation difficult to combat, although the Weather Office assisted with an enlarged long-range fire-weather forecast to warn of the possibility of lightning strikes. In addition there was a disturbing increase in arson.

On the credit side, assent was given to the Forest and Rural Fires Act 1977; infra-red gear was proved adequate in locating deep-seated or hidden "hot spots" at fires and controlled burns; the first simulated fire exercise proved extremely worth while; and the latest in aerial-borne drip torches improved safety, economy, and efficiency in lighting up for prescribed burning.

Liaison with both the Fire Service and Ministry of Defence was tested during the year and sound planning has been established.

ENVIRONMENTAL FORESTRY

FOREST PARKS, RECREATION AREAS, DEDICATED AREAS, AND SANCTUARIES

State forest parks—Some 7000 ha added during the year brings the total area gazetted as forest park to 1 187 160 ha.

The north Canterbury exotic forest of Hanmer and the adjoining indigenous Grantham State Forest, totalling around 16 840 ha, have been approved in principle by the Minister for proclamation as a forest park. Already intensively used by the Hanmer community and tourists, Hanmer Forest has the added prospect of intensive use for outdoor education. The now-redundant forest camp in the exotic forest is well suited to redevelopment as an accommodation centre for pupils, and with the support of the Forest Service a trust is seeking funds to establish the camp as an outdoor education centre.

Recreation areas—Two new recreation areas gazetted, Opua 1932 ha and Taringatura 1389 ha, bring the number of gazetted areas to 14, with a combined total of 110 720 ha.

Dedicated areas and sanctuaries—No new areas have been dedicated or set apart for scientific or other purposes, but the Scientific Co-ordinating Committee has investigated reserve requirements, particularly in Westland and the central North Island, and has made recommendations which are being considered. Gazetted dedicated areas now total 13, covering 9179 ha.

There is a total of 13 forest sanctuaries, covering 15 420 ha.

FOREST PARK MANAGEMENT

Forest park management plans—Public interest in draft forest park management plans made available for public submissions has been encouraging. The research efforts by some groups are impressive, and the submissions made have resulted in clarification of management intentions and beneficial amendments to the plans. A regrettable trend, however, is the relatively small number of individuals commenting on management plans. While the views of sport and conservation interests are well presented by affiliated groups, the interests and attitudes of the predominant non-affiliate individual users of forest parks are not well known or easily represented and the wider social or cultural impact of park management rarely commented on.

Preliminary public meetings or the soliciting of submissions on the principles and options of park management to establish the rationale of draft management plans are being considered to encourage the participation of individuals, especially where forest parks are an extension of urban facilities or are intensively used.

Forest park advisory committees—To provide for a wider range of interests, changes have been made in the procedure of appointment of committee members, with public invitation of nominations for selection by the Minister of Forests. The State Forest Parks Regulations 1969 will shortly be revised to incorporate these new procedures.

ANIMAL CONTROL

Helicopter hunting trial, Tararua Range—Four catchment surveys undertaken in the Tararua Range since 1958 have clearly shown that excessive deer numbers are retarding the regeneration of the high altitude vegetation and that ground hunting by official and recreational hunters has failed to halt this trend. For these reasons the Forest Service late last year, with the approval of the Minister of Forests, proposed and carried out a small commercial hunting trial in the upper Ruamahanga catchment, using a helicopter. This aroused considerable opposition from some sections of the community, but 91 deer were destroyed in 27 hours flying time spread over 11 days. By comparison, the reported kill by members of the N.Z. Deerstalkers' Association, the main opponents of the trial, over summer 1976–77 was 21 deer.

The Ruamahanga trial was closely supervised by the Forest Service and there were no incidents that could be objected to by people using the catchment for recreation. This small trial was not designed to, nor did it achieve, effective control of deer in the upper Ruamahanga catchment. It did however provide additional evidence that closely supervised helicopter operations are the most effective method available to the department to control deer populations in high altitude forest associations.

In the Tararua Range there are over 11 000 hectares of remote high altitude mountain land carrying higher numbers of deer than the vegetation can tolerate with safety. As this constitutes less than 10 percent of the total area of the range, periodic supervised helicopter hunting here would not unduly affect sporting interests. The removal of the present excessive numbers of deer would allow the high altitude vegetation to recover and eventually greatly enhance the soil and water conservation values of the range.

Helicopter hunting, Ruahine Range—Since November 1976 commercial helicopter hunting teams have been used regularly in the Ruahine Range. In five 1-month shooting periods, each involving two helicopters, 3633 deer have been killed. By comparison, continuous Forest Service ground hunting in the previous year resulted in a kill of only 843 deer.

Helicopter hunting in mountain terrain is much more efficient than ground hunting and the results give some confidence that the serious forest deterioration and accelerated erosion reported by several interdisciplinary surveys in the Ruahine Range will be arrested.

Compound 1080 for opossum control—The problem of bovine tuberculosis in cattle, which in some regions has been found to be perpetuated by diseased opossums, has resulted in the Forest Service and Agricultural Pest Destruction Boards using increased amounts of 1080 poison for control of opossums on forests and agricultural lands. This, together with the occurrence of some accidental poisoning of birdlife, has accentuated opposition from some environmental groups, who have always objected to the use of poison for the control of wild animals. As a consequence, the Minister of Forests, after consultation with the Minister of Agriculture and Fisheries, called for an inter-departmental report on the use of 1080. The terms of reference required

that the departments report on the general features of 1080 poison, the effectiveness of existing controls and procedures, and the adequacy of research into the use of the poison.

A comprehensive report has since been submitted to the ministers concerned for consideration by the Government.

In the meantime, field trials undertaken by the Forest Service have shown that small particles of carrot bait, which is produced in large quantity for use in 1080 poisoning operations, have been largely responsible for associated bird deaths. Bait screening equipment has therefore been developed to remove most of the undersize bait, and the department has adopted the policy of screening all bait used in poisoning work. This measure should result in bird mortality being considerably reduced.

COMMERCIAL DIVISION

MILL OPERATIONS

Industrial disruption—In the second half of 1977 Waipa Sawmill became involved in the industrial disruption caused by a struggle for control of the Timber Workers Union. Intermittent stoppages which took place between August and December culminated in the dismissal of 135 men, an action subsequently endorsed by the Industrial Court.

Bonus scheme—A bonus scheme based on productivity and related to profits was introduced at Waipa Sawmill, with effect from 1 August 1977. Unfortunately this coincided with the industrial troubles referred to in the preceding paragraph and as a result the scheme has not yet had a fair trial.

Wood chips for export—In March the first shipment of wood chips was made from Port Chalmers by South Wood Ltd., with Conical Hill Sawmill being the major supplier. This trade will result in overseas earnings of around $1 million a year.

Redevelopment of mills—The investment programme for the mills is now directed towards the provision of processing units designed to match the increased production capacity. Two extra kilns have been provided at Waipa and further kilns and a new treatment plant have been programmed.

An important development in 1977 was the installation of a machine stress grader at Waipa. This has proved a valuable marketing asset in the Australian market for light framing, and a second machine has been ordered.

The Commercial Division has been associated with private industry units in investigations and programmes designed to establish acceptance of New Zealand stress-graded timbers in overseas markets and to achieve overall industry production and quality standards in machine use, marking, and branding.

PRODUCTION AND SALES

Production, at 179 979 m^3, was nearly 14 percent up on the 1976 figure. Sawn timber sales (excluding remanufactured products) in New Zealand, at 116 559 m^3, and overseas, at 51 353 m^3, were 6½ percent and 18 percent respectively above the previous year. Overseas sales accounted for 30.5 percent of total sales, and of these more than 47 percent were sold to Japan and 29 percent to Australia. Remaining overseas sales were to the Middle East and the Pacific Islands.

WOOD COSTS

Logs were purchased at three price points. Average prices per cubic metre were: Waipa $3.32 on stump and $10.03 on forest ride; Conical $12.72 delivered at mill.

PROFITS AND APPROPRIATIONS

Although the year's turnover of $18,351,180 was 7½ percent above the 1976 figure, tax-paid profits remained relatively the same. These tax-paid profits, at $762,480, were, however, seriously affected by the disruption to production and sales at Waipa caused by the industrial strife.

The year's results allow for the continuation of the 14 percent dividend, and profits will be appropriated as follows:

	$
Tax-paid profits	762,480
Transfer to fire insurance reserve	27,685
Available for distribution	734,795
Dividend at 14 percent	621,149
Retained profits	113,646

Detailed accounts for the year ended 31 December 1977 are given in appendix 9.

PRODUCTION, CONSUMPTION, AND TRADE

PRODUCTION

Because of the date of publication of this report, the latest actual production figures available are for the year ended 31 March 1977. (See appendices 4–7.)

Total wood production—Total removal of roundwood from all forests is estimated at 9.8 million m^3, an increase of 1.5 million m^3 on the year ended 31 March 1976.

Sawn timber production—Production of sawn timber at 2 212 000 m^3 was up by 208 000 m^3 on the previous year's cut. Indigenous sawn timber production decreased by 31 000 m^3 to 343 000 m^3, whereas production of exotic timber increased by 240 000 m^3 to 1 869 000 m^3. Subsequent survey results indicate very little change in the overall production of sawn timber for the year ended March 1978, although a reduction in indigenous sawn production is expected.

Pulp and paper—Production of mechanical and chemical pulps for papermaking is continuing to rise, with 1 103 000 tonnes being recorded for the year ended 31 March 1977, an increase of 150 000 tonnes on the previous year. The estimate for the year ended 31 March 1978 is 1 100 000 tonnes.

Total paper and paperboard production increased 80 000 tonnes, to 635 000 tonnes. Of this, newsprint production increased 26 percent, to reach a total of 275 000 tonnes; and other paper and paperboard increased by 7 percent to 359 000 tonnes. Newsprint production for the year ended 31 March 1978 is expected to increase to about 277 000 tonnes, but the production of other paper and paperboard is expected to decrease to about 350 000 tonnes.

Panel products—Particle board production rose by 31 000 m^3 to reach a total of 160 000 m^3; fibreboard, at 56 000 m^3, increased 12 000 m^3 on the previous year; and plywood recovered from the drop last year to reach a figure of 26 000 m^3. Particle board and plywood production for the year ended March 1978 is expected to remain about the same.

TRADE

The latest available statistics for trade in forest products are for the year ended June 1977 for imports, and December 1977 for exports. Total exports again showed an impressive increase to reach a value of $230.1 million f.o.b.

Exports of sawn timber—The volume of sawn timber exported increased 26 percent over the previous year to reach a total of 300 000 m^3. Value increased by $5 million to $21 million.

Exports of paper and pulp—Paper and paperboard exports increased to 263 000 tonnes; newsprint exports rose from 164 000 tonnes to 190 000 tonnes; and other paper and paperboard decreased slightly

from 84 000 tonnes to 73 000 tonnes. The value of all paper and paperboard exports rose by $8 million to $81 million.

Pulp exports continued to rise, with volume increasing by 77 000 tonnes to 447 000 tonnes and value going up by $10 million to $73 million.

Exports of logs—Log exports increased by 9 percent to 1 073 000 m^3, their value increasing by $4 million to $31 million.

Exports of wood chips—Wood chip exports increased 51 percent to 199 000 b.d.u. This represented a value of $10 million, an increase of $3.9 million.

Imports of forest products—The c.d.v. value of all forest products imported rose by $21 million to $56 million in the year ended June 1977. Log imports decreased from 8000 m^3 to 7000 m^3, but sawn timber imports increased by 11 000 m^3 to reach 36 000 m^3. Pulp imports decreased by 1600 tonnes to 4000 tonnes. The volume of paper and paperboard imported increased by 20 000 tonnes to 40 000 tonnes, the value increasing by $15 million to $33 million. The value of imports of other forest products rose by $2 million to $13 million.

RESEARCH AND DEVELOPMENT

RESEARCH

The *Report of the Forest Research Institute for 1977,* published separately, deals fully with the year's research programme.

WOOD USE

End-use data—The need for reliable data on the end use of timber and wood products in New Zealand has become increasingly apparent in recent years. Without such information it is not possible to identify demand and usage trends and associated technical and commercial problems. Moreover, policy and decision-making as they affect forestry and related industry activities are made difficult without such information. For these reasons, a further survey of timber and wood-based products in residential construction—based on the survey undertaken in 1972–73—has begun. Sampling and field work are well advanced and should be completed by mid 1978. The processing and analysis of data will then start, and publication can be expected in late 1979.

A survey of manufactured products, carried out with the assistance of the Department of Statistics, and a report on the use of wood in pallet manufacture are due for release in 1978.

Standards—The Forest Service continues to contribute to the formulation of new New Zealand standards and the revision of outdated standards concerned with wood materials and their end use. Standards Association of New Zealand items of current interest with which the Forest Service is associated are revisions of the standards for national grading rules for timber, light timber frame construction, structural timber design, manufacture and design of glued-laminated timber, and timber ladders; as well new standards are being prepared for mechanically stress-graded timber and for finger-jointed timber. In addition, the Forest Service is also contributing to the work of the International Standards Organisation (ISO).

As an aid to informing the producers and users of timber for house construction, the Forest Service, with other authorities (principally the Housing Corporation), has arranged the construction of several home units in Auckland and Wellington to demonstrate new aspects of framing which are incorporated in the revised code for light timber-framed construction. These demonstration houses are being used as focal points for seminars on the new building code.

Machine stress grading—In 1976 machine stress grading of timber was introduced commercially into New Zealand, facilitated largely by work carried out by the Utilisation Development Division and the Forest Research Institute. This system of sorting timber according to its stiffness and bending strength, which is an alternative to the visual grading method, has been thoroughly tested in New Zealand on a range of New Zealand - grown timbers, and these investigations show that under properly controlled circumstances it is possible to segregate timber into a comprehensive range of both stress grades and timber dimensions

Moreover, the machine is capable of reproducing or repeating grade results with considerable accuracy at high speeds. The results are economies in engineering design, timber recovery, and use of a valuable material. Thus far most of the output from the machines installed has been exported to Australia, where machine stress grading is favoured because of the introduction there of building codes which require stress-graded timber.

TIMBER INSPECTION AND QUARANTINE

There was a further increase in exports of both logs and sawn timber during the year, but a marked decrease in log exports from the Canterbury wind-thrown forests, where the main quarantine problem was the fairly high incidence of decay fungi, reflecting the increasing age of the logs recovered. For the year ended 31 December 1977, although there was a small decline in timber imports, incidence of insect infestation was normal.

With container shipping the main problem continues to be wrong coding (of container contents) on shipping manifests. Close communication is being maintained with the Container Shipping Lines Co-ordinating Committee on this and related matters, and a feed-back information system has been introduced to record wrongly coded container information.

A draft revision of the Forest Produce Import and Export Regulations 1966 has been completed, but the new regulations are not expected to come into force until 1978.

Three separate instances of Australian subterranean termite activity (two in Auckland and one on the Coromandel Peninsula) were discovered during the year. One has been eradicated; the other two are being treated.

TIMBER PRESERVATION AUTHORITY

During the year the Timber Preservation Authority met on four occasions, with the milestone being the 100th meeting, held in Auckland in September during an inspection tour of preservation plants by the authority.

At 31 March 1978 there were 298 preservative treatment plants registered with the authority. Five new plants were approved and six registrations cancelled. It was found necessary to suspend the operations of one plant until its standard of technical control was raised to acceptable levels. Two companies were prosecuted and fined for failing to observe the branding requirements for treated timber.

In the year ended 31 December the authority's officers took samples of pressure-treated timber representative of 1019 charges. Subsequent analysis showed that 112 charges failed to meet the required standards and therefore were required to be retreated.

Because of a deterioration in the general standard of branding, new branding requirements were introduced by the authority. These came into force on 1 January 1978. Notable changes include compulsory burn branding of all round and rough-sawn treated timber. The addition of dye stuff to colourless treating solutions is no longer required.

ENGINEERING ACTIVITIES

Sawmill engineering—At Waipa Sawmill additional kilns have been constructed and more are to be built next year. Construction of a new green table was completed, and plans are under way to build a new dry table. A grit-arresting installation has been ordered and manufacture is well in hand. It is expected to be commissioned mid 1978. Two further projects initiated are for another pressure treatment plant and the installation of a second stress-grading machine.

At Conical Hill Sawmill a new power-feed bench replaced the old breast bench and a further kiln was installed. Investigations are proceeding into improving log handling used to feed the debarker.

Vehicles and plant—The amount of finance for the purchase of motor vehicles and mechanical plant continues to be insufficient, especially in the case of four-wheel-drive and heavy commercial vehicles. Of greater concern, however, is the condition of many heavy plant items. Many crawler tractors, skidders, graders, nursery tractors, and items of logging machinery need replacing but the shortage of finance has not allowed this. The result is frequent breakdowns, coupled with lengthy periods of downtime and high repair bills. The injection of more finance to enable updating of the plant fleet would overcome these problems and permit more efficient operation.

Assistance to outside bodies—The department is co-operating with the Paihia County in establishing facilities for the disposal of sewage effluent within Waitangi Forest. Land for the disposal of effluent is becoming increasingly difficult to find and it is inevitable that forests will be used increasingly for this purpose in the future.

Telecommunications—Further exotic forests have been provided with very high frequency (v.h.f.) radio coverage by means of hilltop or mountaintop repeaters. As is now normal practice, these are installed by helicopter and powered with a solar power system. Solar power systems for this type of application are proving more reliable than the use of conventional power lines.

Increasingly good quality v.h.f. radio communications in vehicles demonstrates the increased flexibility it brings in the control of the work force and savings in vehicle mileage.

Mapping—The efficiency and economy of forest planning and management have been increased by technical improvements in interpretation and mapping photography and methods. Investigations into further improvements, by the use of National Aeronautics and Space Administration (NASA) remote-sensing data from the "Landsat" satellite programme, have been carried out in co-operation with the Department of Scientific and Industrial Research. One practical application of remote sensing has been the assessment of a potential ski field, and this particular study has been used by the United States authorities for comparison with similar studies in that country.

Landscaping—Visual planning has been carried out on a number of forests, particularly those with large areas adjacent to or visible from public highways. Forests which have received attention are East Taupo, Waitangi, Woodhill, Hanmer, and Tairua.

Accommodation standards—Improvement in the standard of amenities for employees continues. The new community centre for Kaingaroa Village has been officially opened and is in use. Self-contained motel-type units have been built for single men at many forests.

OTHER ACTIVITIES

TRAINING

Woodsman training—The commencement in January of a woodsman school at Ashley Forest in Canterbury will provide training for 10 woodsmen each year, who will spend 2 years at the forest.

Besides Ashley, woodsman training now exists in Northland (Aupouri Forest), Rotorua (Kaingaroa Forest), Nelson (Golden Downs Forest), and Otago/Southland (Berwick Forest). The annual intake into all schools is usually 70 trainees, although the 1978 intake numbered 110.

Of the 90 woodsmen who began training in 1975, 70 graduated at the end of 1977, while another 5 were selected for ranger training.

Logging safety training—The Forest Service, N.Z. Forest Products, and the Kaingaroa Logging Company have begun a training scheme in the Bay of Plenty for logging personnel. The aim is to improve efficiency and safety in logging by upgrading skills and knowledge.

Forestry training—New monochrome video tape equipment at the Forestry Training Centre has proved a boon in illustrating up-to-date forestry practices from around the country.

In the year ended 31 March 1978, 197 personnel from private forestry concerns attended short courses held at the Forestry Training Centre. Staff attending from within the Forest Service numbered 614.

Industry training—A recent drop in the number of adults seeking training has given concern to the Timber Industry Training Centre's advisory committee, but despite this there was a full programme last year. Power-saw training was given at both the centre and at a variety of localities throughout the country to 596 people. An extension to the block course training for saw doctoring and timber machining apprentices, approved by the Government in 1977, is being phased in by initially increasing from 3 to 6 weeks the period first year apprentices spend at the centre; and the extension for second and third year apprentices will begin in 1979. Overseas personnel sponsored by firms and under New Zealand's aid programmes came from Australia, Fiji, Jamaica, Laos, Malaysia, New Caledonia, New Hebrides, Niue, Pakistan, Papua New Guinea, the Philippines, Samoa, Solomon Islands, Thailand, and Tonga.

OVERSEAS VISITS

The Director-General and the Director of Economics attended the NAFTA conference in Australia.

The Deputy Director-General attended the 10th session of the Asia-Pacific Forestry Commission, FAO, in Katmandu.

The Director of Commercial Division visited Japan and Australia to negotiate sales of sawn timber, and with a marketing officer visited various world markets in Europe and the United Kingdom to carry out an in-depth study of market prospects in these areas. Marketing officers of Commercial Division also visited Australia, Japan, the Pacific Islands, and the Middle East to negotiate sales of sawn timber.

The Director of Marketing visited Chile to co-ordinate contracts for the marketing of radiata pine; and visits to Korea and Japan were

made to negotiate log sale contracts. With a marketing officer he also negotiated sales of logs to the People's Republic of China and Japan.

The Director of Environmental Forestry visited Australia for a UNESCO regional workshop on Techniques for Selection of Biosphere Reserves.

The Director of Research attended the Executive Board of the International Union of Forestry Research Organisations (IUFRO) held in Canada, and en route spent time in Hawaii gaining information on tree diseases.

A further 22 officers undertook various overseas visits for departmental purposes, including sales of sawn timber, scientific investigations and representations at various international meetings.

OVERSEAS AID PROJECTS

The major part of New Zealand Forest Service advisory and practical assistance to Ministry of Foreign Affairs overseas aid programmes continues to be in the South Pacific region, through both wholly New Zealand projects and also co-operative undertakings with international agencies such as the Food and Agriculture Organisation of the United Nations. Staff availability is a limiting factor, although at present there are 15 Forest Service personnel seconded to overseas positions and this number is expected to increase to 18 during the next year.

Of the New Zealand projects the Fiji Pine Scheme is the largest, with seven New Zealand Forest Service personnel attached on a long-term basis and the amount of aid assistance continuing to grow as the scheme approaches the stage of large-scale harvesting. Important activities include administration of and training in civil and mechanical engineering and survey and mapping. To date only one position on the project supervisory team has been filled by a Fijian national.

The pilot cattle-grazing trial implemented in conjunction with the scheme now requires the services of a full-time stock manager.

A three-man team is giving assistance with hardwood reforestation to Western Samoa. Despite difficulties with land tenure, the project reached full momentum during the year.

Two New Zealand Forest Service staff in Tonga continued to assist with a small afforestation project and the management of two small sawmills.

A timber industry training centre in Lae, Papua New Guinea, designed by Forest Service engineering staff, is approaching the stage where course expansion will require additional tutors and further assistance from New Zealand. The principal of the centre is on secondment from the Forest Service.

Forest Service involvement in the Solomon Islands appears to be drawing to a close as local officers assume the roles previously filled by New Zealanders and as the reforestation project changes to a forest/farm project with emphasis on cattle management.

A forest equipment project scheduled for the New Hebrides did not eventuate and the New Hebridean Government is rethinking its requirement for forestry aid.

As part of the Government's regional assistance to ASEAN countries, a forest management officer made an initial visit to the Philippines with a view to implementing a demonstration project for reforestation.

It is expected that a further visit by the project leader designate will be made to confirm arrangements before a New Zealand team leaves in the next year.

The end-use survey of tropical hardwoods exported from the ASEAN countries to world markets has been completed, and a report has been presented to and discussed with representatives of the five ASEAN nations.

Forest Service assistance has also been sought and given to a hydrology project in Malaysia, and on projects relating to coconut-stem sawmills and timber treatment and preservation in various other areas.

The Deputy Director-General visited the Himachal Pradesh region of India in June to investigate the possibilities for aid. As a result two forest managers have been requested. Initially a fire control officer will be seconded to Foreign Affairs for 2 years for training assistance to the Indian Government.

Other senior officers have made visits to monitor progress and advise on future direction and expansion of existing aid projects.

APPENDIX 1

Area of State Forest Land at 31 March 1978

(Area in hectares)

Conservancy	Permanent State Forest		Total Area of State Forest Land	State Forest Land as Percentage of Total Land Area of Conservancy
	Ordinary	National Endowment		
(1)	(2)	(3)	(4)	(5)
Auckland	351 686	38 313	389 999	11.5
Rotorua	409 675	132 738	542 413	17.3
Wellington	584 903	16 506	601 409	12.7
Nelson	860 012	355 950	1 215 962	43.5
Westland	499 763	229 302	729 065	46.6
Canterbury	278 274	1 476	279 750	6.8
Southland	442 338	28 317	470 655	6.9
Total	3 426 651	802 602	4 229 253	15.9

Reservations and Withdrawals

	Hectares
Land placed under State reservation	12 349
Areas withdrawn from reservation comprised—	
For settlement	192
For national parks	8 809
For roads	–
For scenic reserves	734
Other	1 911

APPENDIX 2

New Area Planted in State Exotic Forests—by Species

(Area in hectares)

Year Ended 31 March	Radiata pine	Douglas fir	Corsican pine	Other	Total
(1)	(2)	(3)	(4)	(5)	(6)
1978 ..	18 021	631	13	1 229	19 894
1977 ..	20 793	719	25	741	22 278
1976 ..	20 150	653	9	853	21 665
1975 ..	19 515	795	15	704	21 029
1974 ..	19 673	794	20	472	20 959
1973 ..	15 792	1 107	19	440	17 358
1972 ..	11 795	880	27	311	13 013
1971 ..	12 674	1 435	97	532	14 738
1970 ..	11 746	2 166	192	683	14 787
1969 ..	10 240	2 391	272	588	13 491
1968 ..	7 188	2 008	173	292	9 661
1967 ..	6 159	1 664	463	302	8 588
1966 ..	6 115	1 233	844	123	8 315
1965 ..	5 947	1 571	551	606	8 675
1964 ..	5 075	745	848	775	7 443
1963 ..	3 675	749	822	898	6 144
1962 ..	2 651	915	603	595	4 764
1961 ..	1 926	858	356	761	3 901
1960 ..	1 036	680	437	741	2 894

APPENDIX 3

Establishment and Clear Felling in State Exotic Forests

(a) *Totals for Conservancies as at 31 March 1978**

(Area in hectares)

Conservancy	Operations During Year			Other Changes in Stocked Area	Stocked Area	Areas Awaiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Auckland	3 513	800	652	−272	60 299	1 349	61 648
Rotorua	5 906	5 421	5 287	+293	184 061	6 247	190 308
Wellington	3 387	296	205	+ 60	54 488	648	55 136
Nelson	2 460	305	454	− 51	42 969	800	43 769
Westland	904	38	..	−104	12 187	..	12 187
Canterbury	773	875	1 290	+ 66	25 719	4 923	30 642
Southland	2 951	229	277	− 3	45 187	382	45 569
Total	19 894	7 964	8 165	− 11	424 910	14 349	439 259

*Provisional.

(b) *Totals for Both Islands and New Zealand at 31 March 1978*

(Area in hectares)

Region	Operations During Year			Other Changes in Stocked Area	Stocked Area	Areas Awaiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total North Island, year ended 31 March—							
1978*	12 806	6 517	6 144	+ 81	298 848	8 244	307 092
1977	14 077	5 393	5 360	− 718	285 588	7 273	292 861
1976	14 132	5 462	4 744	+1 265	272 196	6 570	278 766
1975	13 164	5 454	4 004	−2 566	255 599	4 716	260 617
1974	13 248	4 416	3 591	−1 572	243 852	5 227	249 080
1973	10 750	3 303	3 630	− 306	231 209	5 763	236 972
Total South Island, year ended 31 March—							
1978*	7 088	1 447	2 021	− 92	126 062	6 105	132 167
1977	8 201	1 242	2 318	− 360	119 640	4 573	124 213
1976	7 533	1 809	1 840	− 892	112 875	3 509	116 384
1975	7 865	1 084	1 179	−1 451	106 265	3 219	109 484
1974	7 711	1 474	1 102	− 442	99 947	2 672	102 619
1973	6 608	1 303	1 032	− 334	92 272	3 459	95 731
Total New Zealand, year ended 31 March—							
1978*	19 894	7 964	8 165	− 11	424 910	14 349	439 259
1977	22 278	6 635	7 678	−1 078	405 228	11 846	417 074
1976	21 665	7 451	6 584	+ 373	385 071	10 079	395 150
1975	21 029	6 538	5 183	−4 017	362 166	7 935	270 101
1974	20 959	5 890	4 693	−1 984	343 799	7 899	351 699
1973	17 358	4 606	4 662	− 640	323 481	9 222	332 703

*Provisional.

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS

(c) *By Forests, North Island Conservancies, at 31 March 1977*

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1976	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1977	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Auckland—								
Athenree ..	814	13	13	14	+ 25	851	12	863
Aupouri ..	7 313	1 309	..	11	− 20	8 591	32	8 623
Glenbervie ..	4 117	379	..	16	− 11	4 469	38	4 507
Great Barrier ..	34	..	..	..	..	34	..	34
Katikati ..	19	..	..	..	..	19	..	19
Coromandel ..	442	377	31	24	− 1	825	9	834
Mangawhai ..	993	7	..	..	..	1 000	..	1 000
Maramarua ..	4 426	..	144	168	+ 215	4 617	136	4 753
Omahuta ..	358	156	11	7	+ 22	540	4	544
Puhipuhi ..	..	..	..	..	..	..	..	..
Puketi ..	74	..	..	..	..	74	..	74
Pureora ..	3 577	373	..	..	..	3 950	..	3 950
Riverhead ..	4 087	..	312	229	− 65	4 105	266	4 371
Russell ..	34	..	..	..	..	34	..	34
Tairua ..	8 108	..	54	90	− 10	8 062	533	8 595
Tanui-Kawhia	585	137	..	..	..	722	..	722
Tawarau ..	489	107	..	..	..	596	..	596
Waipoua ..	2 306	4	164	59	− 21	2 394	80	2 474
Waitangi ..	1 911	118	..	19	− 8	2 002	69	2 071
Waiuku ..	1 085	..	6	15	..	1 076	140	1 216
Whangapoua ..	3 950	492	..	..	− 9	4 433	..	4 433
Whenuakite ..	4	..	..	..	..	4	..	4
Woodhill ..	8 050	453	85	..	− 76	8 512	..	8 512
Total ..	52 776	3 925	820	652	+ 41	56 910	1 319	58 229
Rotorua—								
Haparangi ..	229	..	..	..	..	229	..	229
Horohoro ..	1 077	40	..	..	..	1 117	..	1 117
Kaingaroa ..	108 432	686	3 766	3 588	− 360	108 936	1 706	110 642
Lake Taupo ..	10 582	2 017	..	..	− 148	12 451	..	12 451
Mangatu ..	8 940	634	..	..	− 186	9 388	..	9 388
Manutahi ..	53	22	..	..	− 2	73	..	73
Marotiri ..	134	..	..	..	..	134	..	134
Mata	..	226	..	..	..	226	..	226
Patanamu ..	2 394	199	..	..	− 79	2 514	..	2 514
Rotoehu ..	6 027	440	139	125	− 24	6 457	41	6 498
Ruatoria ..	5 161	1 177	..	..	..	6 338	..	6 338
Tihoi	968	168	..	..	..	1 136	..	1 136
Te Whaiti Nuiatoi ..	..	58	..	..	..	58	..	58
Waimihia ..	17 891	33	312	661	..	17 575	3 116	20 691
Waioeka ..	..	..	..	..	+ 43	43	..	43
Waipunga ..	197	159	..	..	..	356	..	356
Wairakei ..	250	85	..	..	+ 37	372	350	722
Whaka ..	4 505	131	90	75	− 48	4 603	66	4 669
Wharerata ..	2 203	334	..	..	..	2 537	..	2 537
Whirinaki ..	2 982	187	..	..	+ 16	3 185	..	3 185
Total ..	172 025	6 596	4 307	4 449	− 751	177 728	5 279	183 007
Wellington—								
Awahohonu ..	2 339	447	..	..	..	2 786	..	2 786
Erua	1 690	..	..	..	− 1	1 689	7	1 696
Esk	2 775	106	..	26	− 1	2 854	27	2 881
Gwavas ..	4 935	240	5	34	+ 2	5 148	136	5 284
Karioi ..	7 562	383	51	109	− 288	7 599	94	7 693
Kaweka ..	4 178	185	..	..	− 2	4 361	..	4 361
Lismore ..	2 170	324	..	..	..	2 494	..	2 494
Mohaka ..	4 983	634	28	..	+ 21	5 666	28	5 694
Motuiti ..	13	..	..	..	..	13	..	13
Mount Bruce ..	13	..	..	..	..	13	..	13
Ngaumu ..	6 511	408	37	44	+ 6	6 918	162	7 080
Poutu ..	18	..	..	..	..	18	..	18
Rangataua ..	..	..	..	..	..	..	..	..
Raupunga ..	48	..	..	..	..	48	..	48
Rimutaka ..	146	..	..	..	+ 2	148	..	148
Rotoaira ..	1 576	679	..	..	+ 25	2 280	..	2 280
Ruahines ..	135	..	..	..	− 2	133	..	133
Santoft ..	2 889	31	3	11	− 35	2 877	81	2 958
Tangimoana ..	148	..	..	..	+ 4	152	1	153
Tararua ..	407	48	..	..	+ 2	457	..	457
Te Wera ..	1 141	65	16	1	+ 250	1 471	1	1 472
Tinui ..	23	..	..	..	+ 36	59	..	59
Tongariro ..	1 026	..	..	..	− 24	1 002	43	1 045
Waitarere ..	1 347	..	126	34	..	1 439	95	1 534
Waituhi ..	396	..	..	..	..	396	..	396
Woodstock ..	926	6	..	..	− 3	929	..	929
Total ..	47 395	3 556	266	259	− 8	50 950	675	51 625

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS

(d) *By Forests, South Island Conservancies, at 31 March 1977*

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1976	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1977	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Nelson—								
Charleston ..	18	..	..	..	+ 2	20	..	20
Dumgree ..	22	..	..	..	..	22	..	22
Golden Downs ..	25 212	1 118	415	344	+ 12	26 413	690	27 103
Hira	2 909	393	..	..	..	3 302	..	3 302
Hukawai ..	145	..	..	..	..	145	..	145
Inangahua West	96	51	..	..	+ 13	160	..	160
Karamea North	..	..	..	..	..	..	..	..
Karamea South	..	..	..	..	..	..	..	..
Mokihinui ..	79	..	..	..	..	79	..	79
Motueka ..	1 891	249	..	..	− 1	2 139	..	2 139
Ohikanui ..	5	..	..	..	..	5	..	5
Orikaka ..	..	..	..	..	..	..	..	..
Queen Charlotte	100	..	..	..	..	100	..	100
Rai Whangamoa*	3 339	398	..	24	− 2	3 711	..	3 711
Tawhai ..	519	18	6	..	+ 3	546	..	546
Waimea ..	898	356	..	..	..	1 254	..	1 254
Wairau ..	2 183	368	..	..	− 4	2 547	..	2 547
Waitahu ..	242	28	..	..	− 4	266	..	266
Total ..	37 658	2 979	421	368	+ 19	40 709	690	41 399
Westland—								
Granville ..	281	..	..	..	..	281	..	281
Hochstetter ..	1 520	200	..	5	..	1 715	5	1 720
Hohonu ..	78	325	..	..	..	403	..	403
Ianthe ..	204	..	..	..	..	204	..	204
Kaniere ..	555	152	..	..	..	707	..	707
Mahinapua ..	840	..	..	21	..	819	21	840
Mawhera ..	2 724	325	..	..	..	3 049	..	3 049
Mikonui ..	..	25	..	..	..	25	..	25
Nemona ..	1 171	58	..	..	..	1 229	..	1 229
Omoto ..	1 320	51	..	..	+ 1	1 372	..	1 372
Paparoa ..	84	12	..	..	..	96	..	96
Waimea ..	1 248	176	..	..	..	1 424	..	1 424
Wanganui ..	25	..	..	..	..	25	..	25
Total ..	10 050	1 324	..	26	+ 1	11 349	26	11 375
Canterbury—								
Ashley ..	5 598	425	148	184	− 15	5 972	396	6 368
Balmoral ..	7 382	..	..	1 214	− 7	6 161	1 501	7 662
Eyrewell ..	4 909	..	285	120	+ 46	5 120	1 444	6 564
Geraldine ..	1 989	183	9	..	− 2	2 179	20	2 199
Hanmer ..	3 620	..	101	167	− 10	3 544	257	3 801
Island Hills ..	189	..	..	..	..	189	..	189
Mt Thomas ..	466	135	..	..	..	601	..	601
Omihi ..	1 214	2	..	..	− 19	1 197	20	1 217
Oxford ..	332	..	..	..	..	332	..	332
Total ..	25 699	745	543	1 685	− 7	25 295	3 638	28 933
Southland—								
Beaumont ..	2 071	..	124	28	− 13	2 154	19	2 173
Berwick ..	7 457	1 163	..	30	− 107	8 483	24	8 507
Herbert ..	1 452	60	44	25	− 6	1 525	34	1 559
Hokonui ..	2 320	..	7	60	+ 22	2 289	59	2 348
Naseby ..	1 509	51	10	..	− 21	1 549	..	1 549
Otago Coast ..	6 014	640	..	..	+ 57	6 711	4	6 715
Longwood ..	4 759	169	..	8	− 103	4 817	..	4 817
Owaka ..	1 163	174	..	..	..	1 337	..	1 337
Rankleburn ..	2 936	170	..	..	+ 19	3 125	..	3 125
Rowallan ..	1 363	234	..	..	+ 3	1 600	..	1 600
Silverpeaks ..	689	54	..	..	+ 30	773	..	773
Slopedown ..	2 212	438	..	..	− 104	2 546	..	2 546
Taringatura ..	1 367	..	..	..	..	1 367	..	1 367
Tautuku ..	64	..	..	..	..	64	..	64
West Tapanui	4 092	..	93	88	− 150	3 947	79	4 026
Total ..	39 468	3 153	278	239	− 373	42 287	219	42 506

*Includes Opouri and Pelorus Forest.

APPENDIX 4

Total Wood Removals from State Forests for the Year Ended 31 March 1978*

(Volume in thousand cubic metres)

Conservancy (1)	Indigenous			Exotic			Grand Total
	Logs (2)	Smallwood (3)	Total (4)	Logs (5)	Smallwood (6)	Total (7)	(8)
Auckland ..	41	..	41	340	39	379	420
Rotorua ..	65	..	65	3 223	73	3 296	3 361
Wellington ..	18	..	18	87	27	114	132
Nelson ..	62	1	63	215	5	220	283
Westland ..	164	1	165	2	..	2	167
Canterbury ..	..	..	..	229	16	245	245
Southland ..	28	..	28	148	25	173	201
Total—1977–78*	378	2	380	4 244	185	4 429	4 809
1976–77†	431	5	436	4 208	144	4 352	4 788
1975–76†	526	4	530	3 711	119	3 830	4 360

*Provisional
†Actual

Notes—(1) This table shows all roundwood removed from State forests under licences, permits, and log sale agreements.
(2) Roundwood for particle board is included with logs.
(3) Totals may not add owing to rounding.

APPENDIX 5

Total Wood Removals from State Indigenous Forests by Method of Sale for Year Ended 31 March 1977

(Volume in cubic metres; value in $(000))

Conservancy (1)	Logs		Smallwood		Total	
	Volume (2)	Value (3)	Volume (4)	Value (5)	Volume (6)	Value (7)
(a) *Sales of Standing Timber*						
Auckland	24 313	201	2 073	3	26 386	204
Rotorua	20 088	70	32	..	20 120	70
Wellington	23 202	174	681	1	23 883	175
Nelson	47 709	119	412	1	48 121	120
Westland	158 292	446	1 413	4	159 705	450
Canterbury	..	..	..	..	..	..
Southland	22 636	83	..	..	22 636	83
Total—1976–77	296 240	1 093	4 611	9	300 851	1 102
1975–76	380 811	1 249	3 103	9	383 914	1 258
1974–75	462 950	1 331	4 493	7	467 443	1 338
(b) *Sales of Logs*						
Auckland	25 747	417	..	..	25 747	417
Rotorua	67 416	1 043	..	..	67 416	1 043
Wellington	..	..	..	..	..	..
Nelson	16 526	105	391	3	16 917	108
Westland	21 682	273	..	..	21 682	273
Canterbury	..	..	..	..	..	..
Southland	3 781	51	..	..	3 781	51
Total—1976–77	135 152	1 889	391	3	135 543	1 892
1975–76	145 535	1 761	350	97	145 885	1 858
1974–75	138 303	1 716	..	..	138 303	1 716

Notes—(1) Logs include saw logs and peeler logs.

(2) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 6

Total Wood Removals from State Exotic Forests by Method of Sale for Year Ended 31 March 1977

(Volume in cubic metres; value in $(000))

Conservancy (1)	Logs		Smallwood		Total	
	Volume (2)	Value (3)	Volume (4)	Value (5)	Volume (6)	Value (7)
(a) *Sales of Standing Timber*						
Auckland	218 404	1 107	17 726	51	236 130	1 158
Rotorua	1 819 676	3 226	58 164	168	1 877 840	3 394
Wellington ..	98 665	558	22 384	59	121 049	617
Nelson	50 846	32	1 739	4	52 585	86
Westland ..	2 233	17	107	1	2 340	18
Canterbury ..	104 043	309	5 775	18	109 818	327
Southland ..	25 056	116	17 301	70	42 357	186
Total—1976–77 ..	2 318 923	5 415	123 196	371	2 442 119	5 786
1975–76 ..	2 160 828	5 220	95 100	272	2 255 928	5 492
1974–75 ..	2 146 917	4 888	112 511	284	2 254 428	5 172
(b) *Sales of Logs*						
Auckland	132 289	1 420	6 324	86	138 613	1 506
Rotorua	1 149 532	10 739	6 542	49	1 156 074	10 788
Wellington ..	..	..	..	..	..	..
Nelson	146 367	1 695	70	1	146 437	1 696
Westland ..	..	..	..	..	..	..
Canterbury ..	359 985	3 897	4 029	64	364 014	3 961
Southland ..	100 527	1 155	4 103	63	104 630	1 218
Total—1976–77 ..	1 888 700	18 906	21 068	263	1 909 768	19 169
1975–76 ..	1 550 379	13 659	24 190	211	1 574 569	13 870
1974–75 ..	1 435 917	12 681	38 574	333	1 474 491	13 014

Notes—(1) Logs include saw logs, pulp logs, and peeler logs.

(2) This appendix has been adjusted to exclude any log exports by contractors from standing timber and to include them in sales of logs.

(3) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 7

Production of Rough Sawn Timber for the Year Ended 31 March 1977

(a) *By Species*

(Volume in cubic metres)

Conservancy (1)	Indigenous								Exotic				All Species			Sawmills Registered
	Rimu and Miro (2)	Matai (3)	Totara (4)	Kahikatea (5)	Kauri (6)	Tawa (7)	Beech (8)	Minor Species (9)	Exotic Pines (10)	Douglas Fir (11)	Eucalyptus (12)	Minor Species (13)	Indigenous (14)	Exotic (15)	Total (16)	(17)
Auckland	25 379	6 934	1 043	1 850	1 044	8 705	..	888	219 119	66	614	5 983	45 843	225 782	271 625	92
Rotorua	42 190	1 722	316	1 717	158	7 146	74	258	886 515	122 937	740	24 072	53 581	1 034 264	1 087 845	46
Wellington	30 020	6 435	2 750	3 211	..	1 383	4	267	241 295	4 768	79	7 986	44 070	254 128	298 198	77
Nelson	26 821	80	5	2 455	..	..	7 298	1	70 250	16 599	35	620	36 660	87 504	124 164	58
Westland	110 797	235	256	20 390	..	..	1 030	165	1 127	..	..	..	132 873	1 127	134 000	21
Canterbury	..	..	..	..	..	..	..	..	154 957	2 463	242	2 077	..	159 739	159 739	58
Southland	7 006	113	112	1 918	..	..	20 444	22	88 985	14 380	9	3 056	29 615	106 430	136 045	46
North Island—																
1976–77	97 589	15 091	4 109	6 778	1 202	17 234	78	1 413	1 346 929	127 771	1 433	38 041	143 494	1 514 174	1 657 668	215
1975–76	113 818	19 418	5 587	9 958	1 219	21 005	138	2 683	1 145 961	130 329	9 646	33 206	173 826	1 319 142	1 492 968	232
1974–75	114 811	16 877	8 075	10 051	1 422	9 298	102	1 806	1 262 272	127 777	2 125	25 093	162 442	1 417 267	1 579 709	220
South Island—																
1976–77	144 624	428	373	24 763	..	..	28 772	188	315 319	33 442	286	5 753	199 148	354 800	553 948	183
1975–76	151 895	238	337	22 179	..	4	25 488	114	231 512	23 444	585	4 555	200 255	310 096	510 351	186
1974–75	156 741	269	111	18 847	..	..	27 137	397	279 479	19 562	979	2 386	203 504	302 406	505 910	166
New Zealand—																
1976–77	242 213	15 519	4 482	31 541	1 202	17 234	28 850	1 601	1 662 248	161 213	1 719	43 794	342 642	1 868 974	2 211 616	398
1975–76	265 713	19 656	5 924	32 137	1 219	21 009	25 626	2 797	1 427 473	153 773	10 231	37 761	374 081	1 629 238	2 003 319	418
1974–75	271 552	17 146	8 186	28 898	1 422	9 298	27 241	2 203	1 541 751	147 339	3 104	27 479	365 946	1 719 673	2 085 619	386

NOTES—(1) Table is based on statistics collected by the New Zealand Forest Service in connection with the annual registration of sawmills.
(2) Indigenous "Minor Species" (column 9) for 1976–77 include: taraire, 411 cubic metres; tanekaha, 188 m³; hinau, 320 m³; rewarewa, 399 m³; puriri, 24 m³; other and unspecified, 259 m³.
(3) Exotic "Minor Species" (column 13) for 1976–77 include: larch, 26 538 m³; macrocarpa, 16 130 m³; poplar, 334 m³; redwood, 432 m³; other and unspecified, 360 m³.
(4) Table includes the production of sawn sleepers; 21 165 m³ was produced in 1976–77.

APPENDIX 7—continued

Production of Rough Sawn Timber for the Year Ended 31 March 1977

(b) *By Land Ownership*

(Volume in cubic metres)

Conservancy	Indigenous					Exotic				Grand Total
	State Forest Land	Unoccupied Crown Land	Maori Land	Private Land and Crown Leasehold	Total	State Forest Land	Local Authority Land	Company and Private Land	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Auckland	28 148	–	2 463	15 232	45 843	165 090	1 126	59 566	225 782	271 625
Rotorua	34 531	–	9 136	9 914	53 581	487 755	292	546 217	1 034 264	1 087 845
Wellington	21 103	–	5 406	17 561	44 070	138 389	7 780	107 959	254 128	298 198
Nelson	25 892	–	–	10 768	36 660	46 078	534	40 892	87 504	124 164
Westland	99 972	9 264	5 372	18 265	132 873	997	–	130	1 127	134 000
Canterbury	–	–	–	–	–	58 721	39 587	61 431	159 739	159 739
Southland	13 832	–	12 866	2 917	29 615	65 250	16 480	24 700	106 430	136 045
North Island—										
1976–77	83 782	–	17 005	42 707	143 494	791 234	9 198	713 742	1 514 174	1 657 668
1975–76	91 497	67	26 004	56 258	173 826	672 354	14 008	632 780	1 319 142	1 492 968
1974–75	103 352	–	16 104	42 986	162 442	759 274	16 358	641 635	1 417 267	1 579 709
South Island—										
1976–77	139 696	9 264	18 238	31 950	199 148	171 046	56 601	127 153	354 800	553 948
1975–76	138 223	7 791	16 520	37 721	200 255	152 482	42 718	114 896	310 096	510 351
1974–75	136 728	7 656	19 456	39 664	203 504	141 968	41 999	118 439	302 406	505 910
New Zealand—										
1976–77	223 478	9 264	35 243	74 657	342 642	962 280	65 799	840 895	1 868 974	2 211 616
1975–76	229 720	7 858	42 524	93 979	374 081	824 836	56 726	747 676	1 629 238	2 003 319
1974–75	240 080	7 656	35 560	82 650	365 946	901 242	58 357	760 074	1 719 693	2 085 619

REPORT OF THE AUDIT OFFICE

The Audit Office, having been appointed in terms of section 25, Public Finance Act 1977, has audited the accounts of the New Zealand Forest Service.

The audit was conducted in accordance with generally accepted auditing standards and practices, comprising such auditing procedures considered necessary in terms of section 25, Public Finance Act 1977 and included:

—a review of accounting procedures and controls;

—examination and tests of accounting records and other supporting information.

All the information and explanations required have been obtained except that, as stated in paragraph 8, Statement of Accounting Policies, the value of stocks and stores on hand has not been reconciled to the financial records. There is therefore no evidence to support the balance sheet asset amounting to $3,595,917.

Subject to the fact that the Audit Office is unable to verify this item, it is of the opinion that the attached financial statements fairly reflect, in accordance with applicable accounting principles, the financial position as at 31 December 1977 and the results of the financial operations for the year.

J. T. Chapman, Assistant Controller and Auditor-General.

26 June 1978.

APPENDIX 8

New Zealand Forest Service Accounts for the Year Ended 31 December 1977

(Excludes Commercial Division)

(a) General Administration Account (Note 1)

	1977 $	$	*1976 $*
Direct charges on—			
Establishment, tending, and protection in amenity protection forests (net)	224,840		*278,488*
Fire prevention and administration of fire districts (note 2)	228,442		*161,588*
Technical investigations, research, etc.	6,594,696		*5,565,510*
Assistance to public and private forestry	1,505,769		*419,497*
Timber inspection and termite control	269,931		*222,889*
Wild animal control (note 2)	1,664,500		*1,500,331*
Work for other departments	973,277		*700,012*
Staff training	694,023		*664,985*
	12,155,478		*9,513,300*
Less miscellaneous recoveries	453,935		*309,532*
		11,701,543	*9,203,768*
General administration charges—			
Staff expenses (note 3)	10,361,370		*7,916,496*
Office expenses (note 4)	1,874,405		*1,494,517*
Maintenance and depreciation	2,115,219		*1,649,387*
Miscellaneous general expenses	936,579		*811,421*
	15,287,573		*11,871,821*
Less overhead recoveries from production forests and Commercial Division	5,801,636		*4,733,519*
		9,485,937	*7,138,302*
		21,187,480	*16,342,070*
Less miscellaneous revenue (note 5)		1,128,863	*877,874*
Net deficit for year		20,058,617	*15,464,196*
Plus previous year's adjustment (note 6)		149,246	*1,208,855*
Total deficit transferred to balance sheet		$20,207,863	*$16,673,051*

(b) Income and Expenditure Accounts: Forests in Production

	Year ended 31 December 1977				*Year ended 31 December 1976*	
	Exotic		Indigenous		*Exotic*	*Indigenous*
	$	$	$	$	*$*	*$*
Income from—						
Sales of logs	24,491,004		2,034,718		*27,464,451*	*1,881,580*
Sales of standing timber	5,839,442		1,634,677		*2,116,413*	*1,231,813*
Miscellaneous revenue	81,692		16,050		*114,166*	*23,171*
	30,412,138		3,685,445		*29,695,030*	*3,136,564*
Less direct logging and sales costs	15,575,111		1,723,606		*16,028,721*	*1,651,695*
Net income from sales		14,837,027		1,961,839	*13,666,309*	*1,484,869*
Less expenditure on forest management—						
Establishment	3,240,681		53,263		*2,668,481*	*133,202*
Tending	2,518,104		1,703		*2,003,916*	*7,447*
Protection	1,179,764		62,023		*1,157,760*	*54,824*
Maintenance of assets, depreciation, and miscellaneous expenditure	7,592,259		1,038,576		*6,679,643*	*1,055,204*
Personnel on cost (note 7)	1,265,838		156,282		*1,138,668*	*155,612*
		15,796,646		1,311,847	*13,648,468*	*1,406,289*
Deficit/surplus for year		959,619D		649,992S	*17,841*S	*78,580*S
Add previous year's adjustment (note 6)		–		267,451	–	–
Total deficit/surplus for year		959,619D		917,443S	*17,841*S	*78,580*S
Balance previous year		1,522,426D		284,368S	*1,540,267*D	*205,788*S
Total deficit/surplus to date		$2,482,045D		$1,201,811S	*$1,522,426*D	*$284,368*S

(c) Forest Development Account: Developing Forests

	1977		1976
	$	$	$
Expenditure on continuing development—			
Establishment	7,117,967		*6,006,867*
Tending	3,669,768		*2,751,491*
Protection	1,073,572		*793,656*
Maintenance of assets, depreciation and miscellaneous expenditure	8,268,607		*6,139,733*
Personnel on cost (note 7)	2,021,419		*1,551,660*
Total expenditure		22,151,333	*17,243,407*
Income from—			
Sales of logs	733,686		*423,955*
Sales of standing timber	1,173,062		*523,928*
Miscellaneous revenue	73,946		*63,611*
	1,980,694		*1,011,494*
Less direct logging and sales costs	552,807		*331,494*
Net income from sales		1,427,887	*680,000*
Net costs for year		20,723,446	*16,563,407*
Add previous year's adjustment (note 6)		118,205	
Capitalised costs for year		20,841,651	*16,563,407*
Balance at beginning of year		88,042,029	*71,478,622*
Total forest assets (note 8)		$108,883,680	*$88,042,029*

(d) Balance Sheet as at 31 December 1977

	1977		1976
Liabilities	$	$	$
Advances from Government	233,613,404		*195,940,891*
Less deficit—			
General administration account	20,207,863		*16,673,051*
		213,405,541	*179,267,840*
Accumulated surplus			
Indigenous production forests		1,201,811	*284,368*
Creditors		2,355,748	*3,446,829*
		$216,963,100	*$182,999,037*
Assets			
Fixed assets—			
Land	15,590,327		*14,059,451*
Buildings, road, plant, etc. (note 9)	76,406,524		*66,118,190*
Forest assets (note 8)	108,883,680		*88,042,029*
		200,880,531	*168,219,670*
Forestry encouragement loans		2,655,878	*2,192,038*
Current assets—			
Debtors	7,076,799		*7,945,901*
Stocks and stores	3,595,917		*2,889,324*
Deposits held	271,930		*229,678*
		10,944,646	
Accumulated deficit—			
Exotic production forests		2,482,045	*1,522,426*
		$216,963,100	*$182,999,037*

The notes that follow form part of and are to be read in conjunction with these accounts.

G. M. O'Neill, Director-General.
D. J. Leahy, Chief Finance Officer.

(e) Notes to the Accounts

1. *General administration account*—Net operating expenses of the department's general government function.

2. *Fire prevention and wild animal control*—Expenditure on non-production areas only. Costs in production forests are charged to those units.

3. *Staff expenses*—Salaries, overtime, travelling, and general expenses of staff.

4. *Office expenses*—Postages, stationery, and general office expenses.

5. *Miscellaneous revenue*—Includes $389,655 interest and $557,580 dividends paid by the Commercial Division.

6. *Previous year's adjustment*—Costs charged to indigenous production forests but more correctly charges to general administration and developing forests. Details are:

	$	$
(i) General administration—		
Technical investigations, research, etc.		149,246
(ii) Developing forests—		
Establishment	81,616	
Tending	7,385	
Protection	823	
Maintenance, Assets, etc. ..	9,348	
Personnel oncost	17,066	
Utilisation	2,014	
Sale of logs	47*Cr*	118,205
		$267,451

7. *Personnel oncost*—Holiday pay and accident compensation levy for all personnel, and wet time and sick leave for wage workers.

8. *Forest assets*—Net expenditure on tree crop at historical values up to 31 December 1974, plus net costs of developing exotic forests since 1 January 1975.

9. *Buildings, roads, etc.*—

	Buildings	Roads and Bridges	Plant and Vehicles	Other Assets	Total
	$	$	$	$	$
Original cost at 31 December 1976..	22,679,371	31,797,671	18,823,302	7,564,226	80,864,570
Net additions and disposals ..	2,803,006	4,873,212	3,244,520	1,426,000	12,346,738
Original cost at 31 December 1977..	25,482,377	36,670,883	22,067,822	8,990,226	93,211,308
Depreciation—					
Accumulated at 31 December 1976	5,032,904	156,552	9,231,033	325,891	14,746,380
Adjustment for year	543,347	22,471	1,456,292	36,294	2,058,404
Accumulated at 31 December 1977	5,576,251	179,023	10,687,325	362,185	16,804,784
Net balance sheet values—					
At 31 December 1976	17,646,467	31,641,119	9,592,269	7,238,335	66,118,190
At 31 December 1977	19,906,126	36,491,860	11,380,497	8,628,041	76,406,524

The basis of original cost is stated in note 4 of the Statement of Accounting Policies.

10. *Creditors*—Includes $271,930 for deposits held on contracts.

(f) Statement of Accounting Policies

1. *Authority*—These accounts are published in accordance with section 16 of the Forests Act 1949 and are prepared on historic cost basis.

2. *Classification of forests*—Up to 31 December 1974 the greater part of the exotic forest estate was regarded as being in the developmental stage for accounting purposes and net expenditure was capitalised. Since 1 January 1975, forests (and their expenditure and revenue) have been classified as follows:

(i) *Exotic production*: Forests which are producing wood from the greater part of the potential productive area of the forest.

(ii) *Indigenous production*: Indigenous forests being managed for the production of native timbers.

(iii) *Developing exotics*: Forests which are under development and are not producing wood from a significant part of the potential productive area of the forest.

(iv) *Other*: Expenditure within amenity and protection areas and on those functions of administrative units which are unrelated to the role of production forestry.

3. *Capital expenditure*—Capitalisation of expenditure on forest assets in exotic and indigenous production forests ceased with effect from 1 January 1975. From this date, in both groups, operational expenses have been related to earnings in the income and expenditure account, to show the year's surplus or deficit.

The year's costs of developing exotic forests are capitalised in the forest development account and included in the balance sheet as forest assets.

All expenditure on other fixed assets is capitalised.

4. *Valuation of assets*—Purchased land is recorded at original cost. Other land is recorded at a nominal book value of $1.24 per hectare. Buildings, roads, plant, etc., are recorded at cost.

5. *Depreciation*—All assets on which depreciation is provided are written off by reference to capitalised historic cost and the estimated useful working life of each type of asset, allowing for a nominal residual value for some assets.

Depreciation on major assets is:

Buildings	1 percent to 2½ percent according to construction on a straight line basis.
Bridges	2½ percent on straight line basis.
Fire equipment ..	10 percent on diminishing value.
Plant, vehicles, radio installations ..	20 percent on diminishing value.
Power saws	50 percent on diminishing value.

6. *Forestry encouragement loans*—The amount represents advances made less repayments. About half only is repayable in terms of the Forestry Encouragement Loans Regulations 1967.

7. *Debtors*—These are recorded at expected realisable value.

8. *Stocks and stores*—The Forest Service does not have an overall policy on the valuation and costing of stores. Each conservancy operates an individual system. Physical stocks were confirmed during the year but these stocks have not been balanced against the financial records. Instructions are being prepared for the implementation of a common stores accounting system for 1978.

9. *Research*—Technical research is written off through the General Administration Account under technical investigations, research, etc., in the year in which expenditure is incurred.

REPORT OF THE AUDIT OFFICE

The Audit Office, having been appointed in terms of section 25, Public Finance Act 1977, has audited the accounts of the Commercial Division, New Zealand Forest Service.

The audit was conducted in accordance with generally accepted auditing standards and practices, comprising such auditing procedures considered necessary in terms of section 25, Public Finance Act 1977 and included:

—a review of accounting procedures and controls,

—examination and tests of accounting records and other supporting information.

All the information and explanations required have been obtained.

In the opinion of the Audit Office, the attached financial statements fairly reflect, in accordance with applicable accounting principles, the financial position as at 31 December 1977 and the results of the financial operations for the year.

J. T. CHAPMAN, Assistant Controller and Auditor-General.

13 June 1978.

APPENDIX 9

NEW ZEALAND FOREST SERVICE COMMERCIAL DIVISION
CONSOLIDATED ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 1977

(a) Operating Account

	Year Ended 31 December 1977		*Year Ended 31 December 1976*	
	$	$	*$*	*$*
Gross value of production		18,351,180		*17,043,049*
Less—				
Cost of logs (note 1)	5,278,045		*4,804,566*	
Manufacturing expenses (note 2)	6,876,569		*6,018,600*	
Selling and distribution expenses (note 3)	3,004,584		*3,175,956*	
Administration and financial expenses (note 4)	2,030,979		*1,859,195*	
		17,190,177		*15,858,317*
Operating profit		1,161,003		*1,184,732*
Less net expenditure on employee accommodation (note 5)		62,242		*74,633*
Profit before income tax		1,098,761		*1,110,099*
Income tax paid	345,000		*250,000*	
Provision for income tax	..		*100,000*	
		345,000		*350,000*
Profit for year		$753,761		*$760,099*

(b) Profit and Loss Appropriation Account

	Year Ended 31 December 1977		*Year Ended 31 December 1976*	
	$	$	*$*	*$*
Net profit from operating account		753,761		*760,099*
Plus profit on sale and disposal of assets		8,719		*2,408*
Tax paid profit		762,480		*762,507*
Less—				
Appropriation to fire insurance reserve	27,685		*25,000*	
Proposed dividend	621,149		*557,580*	
		648,834		*582,580*
Retained profits		113,646		*179,927*
Plus balance 1 January		5,489,529		*5,386,925*
		5,603,175		*5,566,852*
Adjustments relating to previous year (note 6)		(L)37,762		*(L)77,323*
		$5,565,413		*$5,489,529*

(c) Balance Sheet

	Year Ended 31 December 1977		*Year Ended 31 December 1976*	
	$	$	*$*	*$*
Funds employed—				
Advances of Government funds		9,299,900		*8,733,028*
Accumulated profits		5,565,413		*5,489,529*
Represented by the following notional capital apportionment—				
Bank overdraft	1,554,987		*2,274,412*	
Term finance	4,436,776		*3,982,715*	
Accumulated profits and reserves	4,436,775		*3,982,715*	
Share capital	4,436,775		*3,982,715*	
		14,865,313		*14,222,557*
Reserve for fire losses		550,000		*524,775*
		$15,415,313		*$14,747,332*
Current assets—				
Sundry debtors and prepayments (note 7)	2,948,997		*3,580,359*	
Stocks and stores (note 8)	7,891,626		*5,890,632*	
		10,840,623		*9,470,991*
Fixed assets at cost less depreciation (note 9)—				
Plant, equipment, and tools	4,172,530		*3,956,638*	
Buildings and land	1,769,992		*1,482,330*	
Houses and employee accommodation	420,005		*435,078*	
Furniture and fittings	18,684		*11,045*	
Other installations	1,075,269		*1,099,553*	
		7,456,480		*6,984,644*
		18,297,103		*16,455,635*
Less—				
Current liabilities	2,260,641		*1,050,723*	
Provision for dividend	621,149		*557,580*	
Provision for taxation	..		*100,000*	
		2,881,790		*1,708,303*
		$15,415,313		*$14,747,332*

The notes that follow form part of and are to be read in conjunction with these accounts.

G. M. O'Neill, Director-General.
A. A. B. Webby, Director, Commercial Division.

(d) Notes on the Accounts

1. *Cost of logs*—Expenses of logs to mills and other roundwood extracted under contract to delivery point, after adjusting for opening and closing stock. Average cost of logs at point of purchase for all supplies, both clear fellings and thinnings, as follows:

	1977 $ per m³	*1976 $ per m³*
Waipa—		
Purchase of logs on stump	3.32	*3.01*
Purchase of logs on ride	10.03	*9.18*
Conical Hill—		
Purchase of logs at mill site	12.72	*12.14*

2. *Manufacturing expenses*—Expenses of manufacturing and processing into finished products in mill yard.

3. *Selling and distribution expenses*—Direct wages and salaries of sales staff and yard staff involved in preparing finished products for sale, together with all expenses from mill to point of sale.

4. *Administration and financial expenses*—Includes:

	1977 $	1976 $	1975 $
Interest paid	389,655	295,021	210,984
Audit fee	4,877	4,184	1,954

5. *Net expenditure on employee accommodation*—Excess of direct outgoings over actual rents, determined by agreement between the State Services Commission and the Combined State Services Organisation and the New Zealand Timber Workers Union.

6. *Adjustments relating to previous years*—Includes:

	$	$
Income tax overprovided 1976		98,766
Corsican pine ex Whaka 1976		17,114
Sleeper treatment oil recoveries 1976		16,511
		132,391
Less—	$	
Backpay 1976	23,737	
Revenue overstated 1976—		
Chips	64,712	
Export logs	59,828	
Sleepers	21,875	
		170,152
		$37,761

7. *Sundry debtors*—Is the net amount after deducting the following:

	1977 $	1976 $	1975 $
Provision for doubtful debts	114,000	114,000	114,000
Provision for discount	15,322	25,939	14,091

8. *Stocks and stores*—This item comprises:

	1977	1976	1975
	$	$	$
Log and timber stocks ..	6,711,972	4,725,387	3,931,877
General stores	1,179,654	1,165,245	1,078,832

9. *Fixed assets*—Covers:

	Original Cost as at 31 December 1977	Cumulative Depreciation to 31 December 1977	Additions	Deletions
	$	$	$	$
Plant, equipment, and tools	8,833,213	4,660,683	896,124	564,562
Buildings	2,572,873	802,881	322,248	15,525
Houses and employee accommodation	850,934	430,929	2,577	..
Furniture and fittings ..	44,864	26,180	12,351	41
Other installations ..	1,404,485	329,216	107,503	33,745
	$13,706,369	$6,249,889	$1,340,803	$595,873

Depreciation provided in 1977 was $862,210; in 1976, $571,340; in 1975, $673,118.

(e) Source and Application of Funds

	1977	1976	1975
	$	$	$
Source of funds—			
Net funds from operations	1,575,749	1,254,116	1,228,956
Increases in advances from Government ..	566,872	3,194,546	2,547,503
Proceeds from sale of fixed assets ..	15,476	22,009	367,930
Increase current liabilities	1,109,918	112,287	
	$3,268,015	$4,582,958	$4,144,389
These funds were applied in—			
Acquisition of fixed assets	1,340,803	1,770,932	1,695,572
Increase in current assets	1,369,632	2,378,104	2,003,215
Decrease in current liabilities			106,958
Payment of dividend	557,580	433,922	338,644
	$3,268,015	$4,582,958	$4,144,389
Net funds from operations—			
Net profit from operating account ..	753,761	760,099	515,195
Adjustment relaitng to previous year ..	(L)37,762	(L)77,323	(P)46,973
Depreciation	862,210	571,340	673,118
	1,578,209	1,254,116	1,235,286
Less provision for doubtful debts			6,330
Expenditure met from fire insurance reserve	*Dr* 2,460		
	$1,575,749	$1,254,116	$1,228,956

(f) Highlights

	1977	1976	1975
Gross value of production ($000)	18,351	17,043	11,555
Production (m^3)	179,979	158,076	149,407
Total personnel employed	770	936	920
Total remuneration to employees ($000)	6,970	6,303	5,380
Tax paid profit ($)	762,480	762,507	614,288
Proposed dividend ($)	621,149	557,580	433,922
Retained profits ($)	113,646	179,927	139,321
Percentage of profits retained	15	24	23
Total assets ($000)	18,297	16,456	12,898
Working capital ($000)	6,404	5,488	3,994
Total funds employed ($000)	15,415	14,747	11,425

(g) Statistics

	1977	1976	1975
Dividend rate (percent)	14	14	14
Number of times covered by profit	1.2	1.4	1.4
Tax paid profit to—			
(i) Shareholders funds (percent)	8.59	9.57	8.31
(ii) Gross sales (percent)	4.15	4.47	4.46
(iii) Share capital (percent)	17.18	19.15	16.62
(iv) Total funds employed (percent)	4.95	5.17	4.51
Current assets to—			
(i) Current liabilities	2.4:1	2.4:1	2.3:1
(ii) Stocks	1.4:1	1.6:1	1.4:1

(h) Statement of Accounting Policies

The general accounting principles appropriate for measurement and reporting of profit and loss under the historical cost method as recommended by the New Zealand Society of Accountants Statement of Standard Accounting Practice No. 1 have been adopted.

The following particular accounting principles which materially affect the measurement of profit and financial position have been applied.

1. *Basis of consolidation*—The accounts of Conical Hill Sawmill have been consolidated with those of Waipa Sawmill. All significant inter-mill transactions have been eliminated.

2. *Notional capital*—The operating accounts and balance sheet of the Commercial Division conform with the accounts of a public company except that in the balance sheet a notional capital structure is shown.

The notional capital is necessary because Commercial Division expenditure is funded from the public account and all revenue earned is credited to the public account. This approach permits a comparison of the results achieved by the Commercial Division with those of other companies in the timber industry.

The notional capital apportionment is based on Reserve Bank statistics applying to a group of companies engaged in business similar to that of the Commercial Division. Currently this allows the following apportionment of the items, advances of Government funds, and accumulated profits:

25 percent: Bank overdraft with the proviso that actual current liabilities are deducted.

25 percent: Term finance.

25 percent: Accumulated profits and reserves.
25 percent: Share capital.

3. *Fixed assets and depreciation*—Depreciation of fixed assets has been based on rates and bases allowed by the Inland Revenue Department. In the case of major assets this represents:

(a) Machinery on diminishing value of assets at 15 percent per anum.
(b) Mobile plant on diminishing value of assets at 20 percent per annum.
(c) Buildings depreciated on straight line basis at $2\frac{1}{2}$ percent per annum of original cost.

There are other minor assets attracting depreciation rates varying from 5 percent to 50 percent on the diminishing value of the assets.

4. *Inventory valuation*—The following methods have been used for the valuation of inventories:

(a) Log stocks: Cost landed at gantry $137,847.
(b) Manufactured timber products and roundwood: Cost of production including all direct and indirect costs of operating the mills and all expenses of Commercial Division, Head Office in Rotorua $5,797,294.
(c) Retail timber stocks: At wholesale purchase prices $598,246.
(d) Stores: At cost into stores $1,179,654.
(e) Wood chips: Market price at point of sale $178,586.

5. *Provision for doubtful debts*—An allowance on accounts receivable based on past experience is made in respect of doubtful accounts. Bad debts have been charged to profit and loss.

6. *Repairs and maintenance*—Expenditure for maintenance, repairs, and replacements is charged to expense. Expenditure for modification and betterment of the relevant asset which materially increases the value of that asset has been capitalised.

7. *Income tax*—Provision is made for company taxation on income after taking advantage of all concessions, including export market development, export incentive, and regional and investment allowances.

8. *Foreign currencies*—Foreign currency transactions are converted to New Zealand currency at the rate of exchange ruling on the date of the transaction.

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